

FLIGHT

The
**AIRCRAFT
ENGINEER
&
AIRSHIPS**

First Aero Weekly in the World.

Founder and Editor: STANLEY SPOONER

A Journal devoted to the Interests, Practice, and Progress of Aerial Locomotion and Transport

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DIARY OF FORTHCOMING EVENTS

Club Secretaries and others desirous of announcing the dates of important fixtures are invited to send particulars for inclusion in the following list:—

June 23	Grosvenor Challenge Cup, Lympe
June 25-30	International Air Congress, London
June 30	R.A.F. Aerial Pageant, Hendon
July 13-14	Air Race for King's Cup
July 16	Unveiling of R.A.F. Memorial by H.R.H. The Prince of Wales
July 20	Gothenburg Exhibition
Aug. 1	Entries close from British Competitors for Schneider Cup
Aug. 3-14	Rhön Gliding Competition
Aug. 6	Aerial Derby
Aug. 6-27	French Gliding Competition, near Cherbourg
Aug. 8-12	F.I.A. Conference, Gothenburg.
Sept. 23	Gordon Bennett Balloon Race, Belgium
Sept. 28	Schneider Cup Seaplane Race at Cowes
Oct. 8-13	Light 'Plane and Glider Competitions, Lympe
Oct. 14	Beaumont Cup Race at Istres, France
Dec. 1	Entries close for French Aero Engine Competition

1924

Mar. 1 French Aero Engine Competition.

EDITORIAL COMMENT.



THE International Air Congress, which is to be held in London from June 25 to June 30, although the first to be held in this country, is the seventh of its kind. Previous Congresses have taken place at Paris, 1889, 1900, and 1921; Chicago, 1893; Milan, 1906, and Nancy, 1909. The only Congress of this character held in recent years was that in Paris in 1921, which was held in conjunction with the Paris Aero Show. A great number of most interesting and valuable papers were read at that Conference, but a perusal of the list of papers to be read in London next week (published elsewhere in this issue) indicates that the first British International Air Congress will far exceed in interest and importance all previous Congresses.

The Congress will be opened by the Prince of Wales, will be under the Presidency of Group-Captain His Royal Highness the Duke of York, K.G., R.A.F., and the main committee, under the chairmanship of His Grace the Duke of Sutherland, Under-Secretary of State for Air, is composed of members nominated by the Air Ministry and by the four bodies representing British aviation, i.e., the Royal Aeronautical Society, the Royal Aero Club, the Air League of the British Empire, and the Society of British Aircraft Constructors.

An executive committee, under the chairmanship of Major-General Sir Frederick Sykes, deals with the detail organisation, and has the assistance of sub-committees responsible for the selection and reading of papers, for the entertaining of members, and for financial arrangements. The official languages of the Congress will be English and French, and all papers will be read in one or the other of these languages.

The names on the general council of the Congress include representatives of all our leading institutions, societies and associations, and an exceptionally strong main committee has been got together, so that even the most critical would, we think, have difficulty in finding any fault with the organisation. The social side has been given due consideration, the series of receptions, visits, etc., being worthy of the distinguished foreign representatives who have promised to attend the Congress.

We have repeatedly urged in these columns the importance of treating civil aviation and research problems on an international basis, and we are therefore more than a little gratified to find how well this first British International Air Congress has been planned. The papers to be read, and the bringing into personal touch of representatives of something like 17 different countries, cannot fail to go a long way in preparing the path for future international air communications, which must, in the very nature of things, become largely international in character.

With regard to the papers to be read, from the list of subjects it is evident that the many problems with which aviation is still faced will receive very competent treatment at the hands of specialists.

Apart from research and experiment, the practical aspects are to be fully dealt with by speakers who are specialists in their particular sphere. It is not necessary here to enter into detail, as the titles of the papers are given elsewhere. Suffice it to say that probably never in the history of aviation will a more comprehensive treatment have been given of all the various branches of aeronautics.

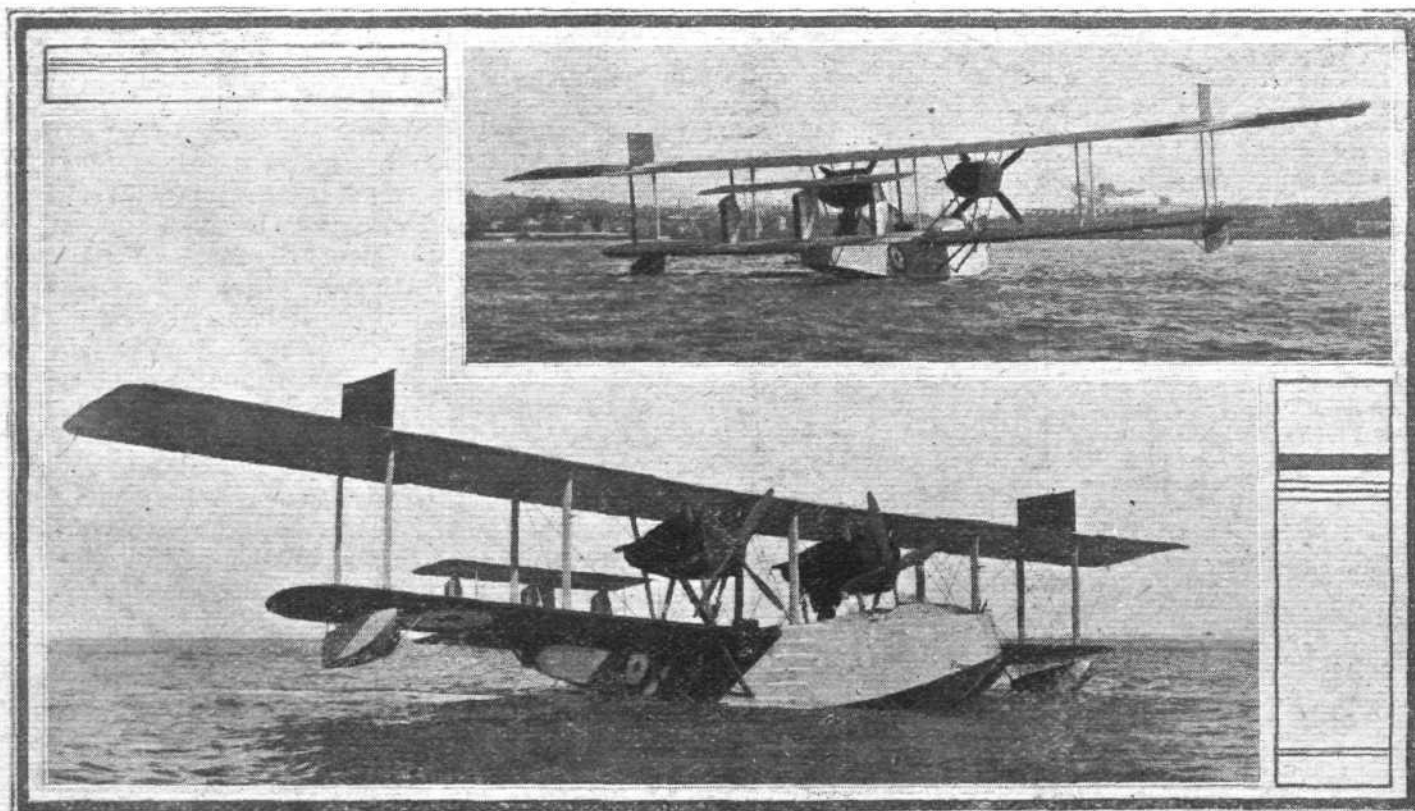
When we say *all* the branches of aeronautics, we must make one exception. It seems an unfortunate fact that, so far as can be ascertained from the list of papers, no competent authority is dealing with the subject of the seaplane. Doubtless in some of the papers this type of machine, and the problems peculiar to it, may be referred to incidentally, but we think that an entire paper should have been devoted to this subject, which offers sufficient problems to merit the very fullest treatment. It does seem rather strange that among this extraordinarily representative list of specialists from so many countries not one authoritative paper definitely on seaplane problems has been included. Apart from this one omission, we do not think there is any part of the organisation which could have been improved upon to any serious extent.

The Grosvenor Challenge Cup

From particulars published on another page it will be seen that the race for the Challenge Cup and £150 in prizes presented by Lord Edward Grosvenor has drawn ten entries. This is not by any means as large a list as we should have liked to have seen, but at the same time, considering present difficulties, it is sufficiently large to ensure quite a good race. The engine power, it will be remembered, is limited to 150 h.p., and it is of interest to note that no machine entered has an engine of this output, the highest-powered machine being Raynham's Clerget-Avro. The Avro Baby, with 35 h.p. Green engine, to be flown by Hinkler, starting at 10 a.m., is given 1 hour 34 mins. 20 secs. start, the others following at, generally speaking, a few minutes' interval, until the scratch man—Major Foot on the Bristol monoplane, with Bristol "Lucifer" engine—gets away at 11 hours 34 mins. 20 secs. a.m. The machines are all of well-known types, and call for no comment. The only exception is, perhaps, the S.E.5, entered and to be flown by Dr. E. D. Whitehead Reid, which has been fitted with an 80 h.p. Renault engine.

R.Ae.C. and R.A.F.

We congratulate the Royal Aero Club upon the decision, announced under the official Club Notices, to admit a limited number of officers serving in or attached to the R.A.F., and officers employed in Air Ministry Departments, to full Membership of the Royal Aero Club against payment of a nominal annual subscription of two guineas only. To many R.A.F. officers it is not too attractive to be called upon for the full subscriptions to both the R.A.F. Club and the R.Ae.C., and as it is to the advantage of civil and sporting aviation to attract as many R.A.F. officers as possible to the Senior Club, the decision of the Royal Aero Club to reduce the membership fee for their benefit must be welcomed on every score.



THE VICKERS VALENTIA FLYING BOAT: Designed by Vickers and built by S. E. Saunders of Cowes, this machine is fitted with two Rolls-Royce "Condor" engines of 650 h.p. each. Successful flying tests have been carried out recently at Cowes.

THE INTERNATIONAL AIR CONGRESS

FOLLOWING on our previous announcements in connection with the International Air Congress, we give below a full programme of Papers to be read at the Institution of Civil Engineers, Great George Street, Westminster, S.W. 1, on June 25-30:—

Monday, June 25

10.45 a.m.—In the Great Hall. Opening of the Congress by H.R.H. the Prince of Wales.

11.15 a.m.—In the Great Hall. Inaugural Address by His Grace the Duke of Sutherland.

11.45 a.m.—Room 1 (Lecture Theatre). GROUP A. Chairman: Col. O'Gorman. Papers: (1) "Standardisation of Methods of Research," by Sir R. T. Glazebrook; (2) "Proposal for Standardisation of the Methods of Computing Wing Sections," by M. A. G. von Baumhauer; (3) "Standardisation de la Notation Mathématique de L'Aéronautique," by Commander Herrera.

Room 2 (Reading Room). GROUP B. Chairman: Brig.-Gen. R. K. Bagnall-Wild. Paper: "Airscrew Research in Great Britain," by Dr. H. C. Watts.

Room 3 (Council Room). GROUP A. Chairman: Sir Robert Hadfield. Paper: "Les Alliages Ultra-Légères en Aéronautique," by MM. A. M. Portevin and R. de Fleury.

Room 4 (Committee Room). GROUP A. Chairman: Mr. F. Handley Page. Papers: (1) "Note sur la Détermination de l'Indice de l'Essai Statique des Avions de Transport," by M. L. Breguet; (2) "Les Enquêtes sur les Accidents d'Aviation, les Enseignements à en Tirer," by M. F. Devaluez.

3 p.m.—Room 1 (Lecture Theatre). GROUP A. Chairman: Sir R. T. Glazebrook. Paper: "Slotted Wings," by Mr. F. Handley Page.

Room 2 (Reading Room). GROUP B. Chairman: Sir Henry White Smith. Papers: (1) "Aircraft Standardisation," by Mr. G. Le Maistre; (2) "L'Unification et les Produits Standards dans L'Aéronautique," by Col. C. Gerard.

Room 3 (Council Room). GROUP C. Chairman: Dr. G. C. Simpson. Paper: "Affichages des Renseignements Meteorologiques dans les Aérodromes," by Col. Delcambre.

Room 4 (Committee Room). GROUP C. Chairman: Sir Mackenzie Chalmers. Papers: (1) "De l'Etablissement du Droit International Privé de l'Air," by M. E. Sudre; (2) "The International Air Convention—Scandinavian Points of View," by Prof. Engstromer; (3) "Suggested Minor Alterations in the I.A.C.," by Capt. Lubeck; (4) "The Marking of Aircraft," by Lt. H.J. Riiser-Larsen.

4.30 p.m.—Room 1 (Reading Room). GROUP A. Chairman: Sir R. T. Glazebrook. Paper: "Apparatus and Equipment Recently Constructed in the Aerodynamics Department, National Physical Laboratory," by Mr. R. V. Southwell.

Room 3 (Council Room). GROUP C. Chairman: Dr. G. C. Simpson. Papers: (1) "Some Technical Problems and Experiences Concerning Winter Flying," by Ing. T. Angström; (2) "Organisation du Balisage Lumineux Nocturne," by Capt. E. Marcotte.

Wednesday, June 27

10 a.m.—Room 1 (Lecture Theatre). GROUP C. Chairman: Major-Gen. Sir W. S. Brancker. Papers: (1) "Air Mails," by Brig.-Gen. F. H. Williamson; (2) "Transport du Courrier," by Jonkheer van Heemstede; (3) "The Development of Commercial Aviation," by Mr. F. Handley Page; (4) "Commercial Aircraft and the State," by Col. C. L'Estrange Malone.

Room 2 (Reading Room). GROUP A. Chairman: Dr. J. S. Ames. Papers: (1) "Fundamentals of Fluid Motion in Relation to Aeronautics," by Prof. L. Bairstow; (2) "Some Aspects of Modern Aerofoil Theory," by Mr. H. Glauert; (3) "The Circulation Theory of Lift," by Major A. R. Low; (4) "Sur la Résistance des Fluides," by Dr. D. Riabouchinsky.

Room 3 (Council Room). GROUP B. Chairman: Brig.-Gen. R. K. Bagnall-Wild. Papers: (1) "A Survey of Recent Work Carried Out in the Research and Experimental Department of the R.A.E.," by Wing Com. Hynes; (2) "The Crude Oil Aero Engine," by Mr. A. E. L. Chorlton; (3) "Some Problems of Static Radial Air-Cooled Aero Engines," by Mr. A. H. R. Fedden.

Room 4 (Committee Room). GROUP C. Chairman: Air-Commodore D. Munro. Paper: "Le Nouveaux Laboratoire à Depression Atmospherique et à Basse Temperature du Bourget," by Dr. P. Garsaux.

2.30 p.m.—Room 1 (Lecture Theatre). GROUP A. Chair-

man: Col. M. O'Gorman. Paper: "The Technical Development of the Aeroplane," by Mr. J. D. North.

Room 2 (Reading Room). GROUP A. Chairman: Sir R. T. Glazebrook. Papers: (1) "Control at Low Speeds," by Mr. R. McK. Wood; (2) "Experimental Determination of Aircraft Stability," by Major T. M. Barlow; (3) "Longitudinal Stability, Controllability and Manœuvrability of Aeroplanes," by Prof. E. P. Warner.

Room 3 (Council Room). GROUP B. Chairman: (To be nominated later). Paper: "The Development of Aero Engine Materials," by Dr. L. Aitchison.

Room 4 (Committee Room). GROUP C. Chairman: Capt. L. F. Blandy. Papers: (1) "La Navigation Aérienne en France: Ses Méthodes Actuelles et ses Applications en Particulier à la photographie," by Capt. Volmerange; (2) "Navigation Equipment for Long-Distance Flights," by Major Wimperis; (3) "L'Emploi des Méthodes de Navigation est Indispensable au Succès des Transports Aériens Commerciaux," by M. A. B. Duval.

4 p.m.—Room 1 (Lecture Theatre). GROUP A. Chairman: Col. M. O'Gorman. Papers: (1) "Testing of Aircraft Structures and Components," by Mr. W. D. Douglas; (2) "The Stability of Oscillations of an Aeroplane Wing," by MM. A. G. von Baumhauer and C. Koning.

Room 3 (Council Room). GROUP B. Paper: "Researches on the Alcohol Internal Combustion Engine Problem," by Prof. E. Hubendick.

Friday, June 29

10 a.m.—Room 1 (Lecture Theatre). GROUP A. Chairman: Sir J. E. Petavel. Papers: (1) "Reliability of Model Data," by Mr. R. McK. Wood; (2) "Méthode d'Experimentation et Utilisation des Resultats Obtenus sur Modèles," by Col. Robert.

Room 2 (Reading Room). GROUP A. Chairman: Air Vice-Marshal Sir W. G. H. Salmond. Paper: "Aviation Insurance," by Mr. A. L. Sturge.

Room 3 (Council Room). GROUP B. Chairman: Sir E. J. W. Slade. Papers: (1) "The Nature of Lubricants in Engineering Practice," by Dr. T. E. Stanton; (2) "Some Physical Properties of Lubricants," by Mr. A. F. Evans; (3) "Viscosity of Lubricants at High Temperature and Pressures," by Mr. M. D. Hersey.

Room 4 (Committee Room). GROUP D. Chairman: Col. M. O'Gorman. Paper: "The Commercial Aspect of Airship Transport," by Major G. H. Scott.

11.30 a.m.—Room 2 (Reading Room). GROUP A. Chairman: Air Vice-Marshal Sir W. G. H. Salmond. Paper: "The Design of Commercial Aircraft," by Major R. H. Mayo.

Room 4 (Committee Room). GROUP D. Chairman: Col. M. O'Gorman. Paper: "The Hulls of Rigid Airships," by Lieut.-Col. V. C. Richmond.

2.30 p.m.—Room 1 (Lecture Theatre). GROUP A. Papers: (1) "Note sur la Résolution Graphique des Equations du Vol Horizontal," by Comdnt. Alayrac; (2) "Méthode Graphique Permettant le Trace d'Ailes d'Avions," by M. E. Royer; (3) "Note sur le Calcul des Ailes d'un Avion," by Prof. Mirea; (4) "The de Bothezat Helicopter," by Prof. de Bothezat.

Room 2 (Reading Room). GROUP C. Chairman: Lieut.-Col. J. T. C. Moore-Brabazon, M.P. Paper: "Aerial Surveying," by Prof. B. Melvill-Jones.

Room 3 (Council Room). GROUP B. Chairman: Sir John Cadman. Paper: "Aviation Spirit—Past, Present and Future," by Dr. A. S. Dunstan and Dr. F. B. Thole.

Room 4 (Committee Room). GROUP D. Chairman: Lieut.-Col. M. O'Gorman. Paper: "Recent Progress in Airship Construction in Italy," by Ing. V. Noble.

4 p.m.—Room 2 (Reading Room). GROUP C. Chairman: Lieut.-Col. J. T. C. Moore-Brabazon, M.P. Paper: "Aerial Navigation and Japan," by Major W. Jikemura.

Room 3 (Council Room). GROUP B. Chairman: Sir John Cadman. Paper: "Les Carburants et l'Industrie des Lignites," by Capt. E. Marcotte.

Room 4 (Committee Room). GROUP D. Chairman: Lieut.-Col. M. O'Gorman. Paper: "The Effect of Bow Stiffeners in Non-Rigid Airships," by Prof. E. P. Warner.

Saturday, June 30.

10 a.m.—Great Hall. Concluding Meeting of Members in General Assembly, the Rt. Hon. Sir Samuel Hoare, Bart., C.M.G., M.P., Secretary of State for Air, in the Chair.

The Royal Aero Club of the United Kingdom

OFFICIAL NOTICES TO MEMBERS

COMMITTEE MEETING

A MEETING of the Committee was held on Wednesday, June 13, 1923, when there were present:—Lieut.-Col. John D. Dunville, C.B.E., in the Chair, Group-Capt. F. W. Bowhill, C.M.G., D.S.O., R.A.F., Mr. Ernest C. Bucknall, Lieut.-Col. M. O. Darby, Capt. D. G. Murray, Lieut.-Col. A. Ogilvie, C.B.E., Lieut.-Col. M. O'Gorman, C.B., and the Secretary.

Election of Members.—The following new Members were elected:—

Capt. Gordon Gilman, R.E.
Major Arnold Graves.
George E. Herbert.
Major Noel Martin.
Major Eustace Moyes.
Capt. Roland Pertwee.
B. Wortman.
Wing-Commander W. E. Wynn.

Sub-Committees.—The reports of the House and Finance Committees were received and adopted.

Racing Committee.—The report of the Racing Committee dealing with the following matters was received and adopted:—

Aerial Derby Prizes and Regulations, Racing Prize Fund, Schneider Race, Motor Glider Competitions, The King's Cup Circuit of Britain Race.

Royal Aero Club and Royal Air Force.—The following resolution was unanimously passed:—

"A limited number of Officers serving in or attached to the Royal Air Force and Officers (past and present) employed in Air Ministry Departments shall be admitted to full Membership of the Club at an annual subscription of £2 2s. while so engaged."

Aviators' Certificates.—The following Aviators' Certificates were granted:—

7942. John Sydney Newall, April 19, 1923.
7943. Mogens Louis Bramson, June 12, 1923.

THE ROYAL AIR FORCE AERIAL PAGEANT.

The Royal Air Force Aerial Pageant, in aid of Royal Air Force Charities, will be held at the London Aerodrome, Hendon, on Saturday, June 30, 1923, at 3 p.m. Tickets for enclosures 10s. and 5s., and car admission tickets 5s., may be obtained from the Royal Aero Club.

There will be no free admission on this occasion.

Members of the Royal Aero Club will be Honorary Members of the London Country Club, Hendon, on the day of the Pageant. Members wishing to lunch there are requested to book their tables beforehand. Telephone: Kingsbury 260.

A special enclosure on the Aerodrome will be reserved for Members of the Royal Aero Club and London Country Club.

Offices: THE ROYAL AERO CLUB,
3, CLIFFORD STREET, LONDON, W. 1.

H. E. PERRIN, Secretary.

THE GROSVENOR CHALLENGE CUP

THE following is an official list of competitors, machines, handicaps, etc., for the Grosvenor Challenge Cup Point-to-Point Handicap Race, which takes place on Saturday, June 23, starting and finishing at Lympne Aerodrome, with controls at Croydon-Birmingham-Bristol-Croydon, a total distance of 404 miles. The first machine starts at 10 a.m.

Identification	Mark.	Entrant.	Pilot.	Aeroplane and Engine.	Handicap.
G-EAUM	..	A. V. Roe	B. Hinkler	Avro "Baby." 35 h.p. Green	1 34 20
G-EAGP	..	Lt.-Col. F. K. McClean, A.F.C.	Flt.-Lieut. W. H. Longton, D.F.C., A.F.C.	Sopwith "Gnu." 110 h.p. Le Rhone	1 31 39
G-EBFB	..	Lt.-Col. M. O. Darby	H. H. Perry	Avro 504K. 100 h.p. Bristol "Lucifer"	1 30 24
G-EBGV	..	Lt.-Col. John Barrett-Lennard	Capt. R. H. Stocken	Avro 504K. 110 h.p. Le Rhone	1 26 34
G-EAMZ	..	F. P. Raynham	F. P. Raynham	Avro 504K. 130 h.p. Clerget	1 19 11
G-EADA	..	Sir William Letts, K.B.E. ..	Capt. H. A. Hamersley, M.C.	Avro 504K. 100 h.p. Bristol "Lucifer"	1 17 23
G-EBCA	..	Dr. E. D. Whitehead Reid ..	Dr. E. D. Whitehead Reid ..	S.E. 5A. 80 h.p. Renault	1 15 37
G-EAWS	..	Sqd.-Ldr. F. L. Robinson, D.S.O., M.C., D.F.C.	Sqd.-Ldr. F. L. Robinson, D.S.O., M.C., D.F.C.	P.9. 90 h.p. R.A.F. 1A	1 5 26
G-EBGC	..	Sir Henry White-Smith, C.B.E.	C. F. Uwins	Bristol "Lucifer." 100 h.p.	0 45 37
G-EAVP	..	Sir G. Stanley White, Bart...	Maj. E. L. Foot, M.C. ..	Bristol "Lucifer"	
				Bristol Monoplane. 100 h.p.	Scratch
				Bristol "Lucifer"	

THE BADEN-POWELL COLLECTION (AERONAUTICAL) FOR SALE

ON Friday, June 29, Messrs. Hodgson and Co., of 115, Chancery Lane, W.C. 2, are selling by auction the extremely interesting and valuable collection of Aeronautical Books and Engravings which has been formed, over a period of twenty years or more, by Major B. F. S. Baden-Powell—formerly President of the Royal Aeronautical Society. As no doubt many of our readers are aware, Major Baden-Powell's name is closely associated with matters aviatric from a very early date, so that, apart from the general character of this collection, a special interest and value is added to it on account of the original owner's personal effort in making it a collection as representative of the development of aeronautics as possible. This is emphasised by the fact that in many cases his own notes on various matters have been added.

Through the courtesy of Mr. Hodgson—who, by the way, is himself a keen follower and collector of matters connected with the early history of aviation, and has an interesting book on this subject nearly completed—we were able to make an inspection of this collection. To give a complete list and report on every item in FLIGHT would be impossible—it may be mentioned that there are some 250 lots in this sale, and the catalogue of same runs into 25 pages—and we can only say that we were very much impressed by what we saw, particularly as regards the engravings. There is one point, however, which appears to us to be one for regret, and that is

that such a splendid collection should be broken up. It is sincerely to be hoped that some one will come along and acquire the collection *en bloc*—and keep it in this country.

In conclusion, mention may be made of just a few of the choice items from this collection:—Lana's "Prodromo," 1670; "The Air Balloon" (the first English treatise on ballooning), 1873; Lunardi's "First Aerial Voyage," 1784, and other works describing various flights by Lunardi; "An Account of James Decker's Two Aerial Excursions from the City of Norwich," 1785 (E. Rigby); "James Sadler's Account of his Voyage from Bristol," 1810, etc.; Walker's "Treatise on the Art of Flying" (first edition); Pocock's "Aeropleustic Art," 1827; Forster's "Remarkable Aerial Voyages," 1832; autograph presentation copies of Coxwell's "Balloon Experiences," 1887-9; Stringfellow on "Screw-Propelled Aeroplanes," 1809-92; presentation copy of Langley's "Experiments in Aerodynamics," 1891; De Forge's "La Conquete de l'Air" (presentation copies from the author). Engravings: Fine specimens, some very rare, depicting most of the famous early balloons, etc. Coloured engravings of Degen's flying machine; Walton's (Ackermann) lithograph of Henson's aerial carriage; lithograph of Miller's aerostat, by Cheffins after Absolon (Ackermann); a rare print depicting the fatal descent of Harris in the Royal George balloon, Beddington Park, 1824, etc.

LIGHT 'PLANE AND GLIDER NOTES

Those wishing to get in touch with others interested in matters relating to gliding and the construction of gliders are invited to write to the Editor of FLIGHT, who will be pleased to publish such communications on this page, in order to bring together those who would like to co-operate, either in forming gliding clubs or in private collaboration.

LAST week we were able to give particulars of the 35 machines entered for the forthcoming light 'plane and glider competition at Vauville, near Cherbourg. Two more entries have now been received—these from Henry and Maurice Farman. At present no information is available relating to the Farman machines, but it may be stated that No. 36 is a light 'plane while No. 37 is a pure glider.

AGAIN we would remind British constructors of gliders and light 'planes that machines may be entered up to July 1 against payment of an entrance fee of 100 francs, which amount will be returned if the machines put in an appearance at Vauville. All communications to be addressed to the Secretariat Général de l'Association Française Aérienne, 17, Boulevard des Batignolles, Paris (8^e).

IN the meantime things are progressing slowly with machines for the British competitions. A number are now actually on the stocks, and it seems likely that a reasonably good entries list will be forthcoming. We have already referred to the fact that one may expect at least two Gnosspelius "Gulls" with Blackburne engines, two A.N.E.C. light 'planes, also with Blackburne engines, possibly two de Havilland machines, perhaps a second edition of the "Wren," two Sayers-Handley Page monoplanes, and likely enough three or four amateur-built machines.

It is scarcely to be doubted that Raynham will enter a machine in order to try his luck this year, and there are rumours of a Westland light 'plane of unorthodox design being entered. Altogether we are beginning to have hopes that the British section of the September competitions will be very representative.

In view of the fact that the *Daily Mail* prize is open to the world, it may be expected that a goodly number of the

French machines will be sent over (or flown over) from Cherbourg at the end of the French meeting, thus further swelling the list. Incidentally, the French entrants will have an advantage in that they will have gained much practical experience at Vauville, while probably most of the British machines will not be ready much before the start of the competitions.

FROM Mr. Wm. G. Chamberlain, Vice-President of the Industrial Mechanical Engineering Association, Pratt Institute, Brooklyn, N.Y., we learn that he is starting construction very shortly of the "Turkey Buzzard" prize-winning design published recently in FLIGHT. We are expecting to hear from Mr. Chamberlain how he gets on with the construction, and also how the machine behaves in the air.

WE were very sorry to learn of M. Barbot's accident on June 6, when he came into contact with a tree during a flight from Roosevelt Field, Long Island. M. Barbot was to have attempted a flight to Washington, D.C., but his machine was pretty badly damaged and it will be some time before it can be repaired. We sincerely hope repairs will be found possible, as it would be a pity if he were to have his visit to America cut short by such a simple accident.

ELSEWHERE in this issue we publish the first instalment of an article describing and illustrating the competition design "Norbet," by Mr. Sydney O. Smith. The design was not awarded a prize in our competition, but we have thought that some might prefer it to "Turkey Buzzard" and/or "K.L." and have, therefore, decided to publish it. In parts the design is somewhat sketchy, but anyone familiar with aircraft construction should have little difficulty in following the general lay-out.

ON June 14 Squadron-Leader Wright made a flight of over one hour's duration on the "Wren" at Lytham Sands. The machine got off well and showed quite a good climb, while the top speed was 52 m.p.h., which is extraordinarily good for a machine fitted with an engine of not more than 7 h.p. The altitude reached was 2,350 ft. Further tests will be carried out.

"FLIGHT" GLIDER DESIGNING COMPETITION

"Norbet," Designed by Mr. Sydney O. Smith

IN accordance with our promise to publish some of the designs submitted for our glider designing competition, other than those which won prizes, we commence in this week's issue publication of the drawings for a monoplane glider designed by Mr. Sydney O. Smith. This design, the "Norbet," shows a pure cantilever monoplane of a type resembling in general lay-out the famous Hannover monoplane. There is nothing very remarkable about the design, but it might appeal to some, and should be reasonably easy to construct. The following remarks by one of the Judges should be carefully studied:—

"In general the design, it must be admitted, is an almost exact facsimile of the Hannover glider. It is not stated what improvements, if any, are expected over the performance of the Hannover.

"It is pointed out that the chief departure from the standard design, viz.: the substitution of square for rounded wing tips on the main and tail planes will result in a loss of lift and L/D and a corresponding loss of stability and control.

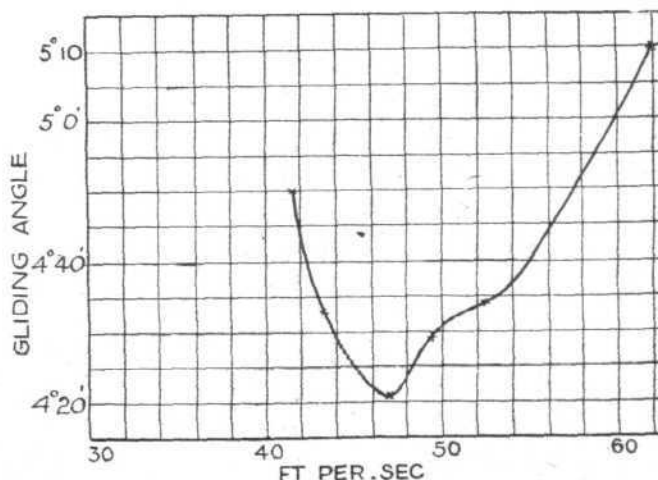
"The method of calculating the vertical component of the flying speed is commendable.

"The weight estimate is not unduly optimistic, although, in view of the possibility of this being exceeded, it is thought that a greater wing area should have been allowed so as to keep the wing loading well under 2 lbs. per sq. ft. in any case.

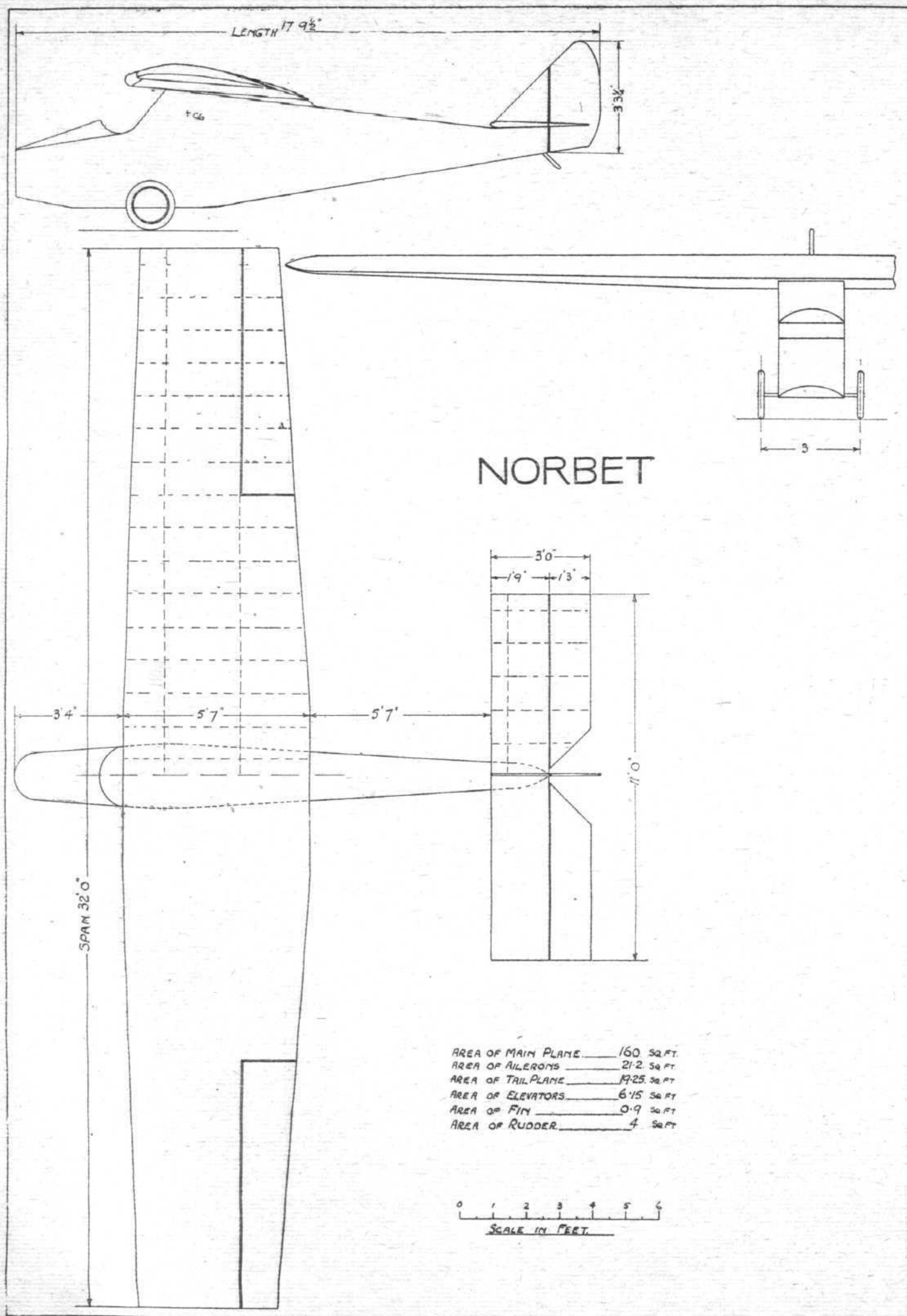
"Under the heading 'Vertical Position of C.G.' the detailed drag estimate has been made, and a final statement of the height of the C.G. is given.

"It is not stated what relative position of the C.G. to the centre of drag is aimed at, and the centre of drag has not been estimated.

"Under the heading 'Spar Stresses' it is pointed out that the application of the Perry Formula to the spar under direct bending due to lift and slight compression due to drift has resulted in a correction to the bending stress of the order of 0.1 per cent., so that this refinement would appear to be unnecessary.



Curve of gliding angles of the "Norbet."
Best Gliding Angle 1 in 14.



The monoplane glider "Norbet," designed by Mr. Sydney O. Smith. General arrangement drawings to scale.



"The distribution of material in the spars could be improved upon, with resulting reduction of weight towards the tip and an increase of strength and resilience, since it is safer to have a spar that is strongest at the root and whose strength slightly diminishes towards the tip than *vice versa*.

"With regard to the wing construction, it is pointed out that the type of spar consisting of thick spruce flanges and deep, thin three-ply webs has proved to be unsatisfactory on account of the great difference in stiffness between the two, resulting in great stress being thrown on the webs, with consequent failure of these members. It is pointed out that the ribs would require diagonal bracing in the bays between the spars.

"No arrangement or details of the controls have been shown; it must be mentioned that these are among the most important features of any design.

"The fin and rudder design appears correct, but the area of these members would probably have to be increased."

Space does not permit of publishing the complete calculations, etc., carried out by the designer of "Norbet," but the following synopsis should be of interest.

The wing section used is that known as airscrew No. 4, particulars of which are contained in Advisory Committee for Aeronautics Reports and Memoranda No. 322, which can be obtained from H.M. Stationery Office, Kingsway, W.C. 2. The designer makes an estimate of the minimum sinking rate, based upon the maximum value of $\left(\frac{L}{D}\right)^2 \times K_L$, and arrives

at the result that, with a wing loading of 2 lbs./sq. ft., the minimum sinking rate will occur at an angle of 4° , and will be 2.75 ft./sec., at a speed of 46.9 ft./sec. (31.9 m.p.h.).

The following approximate weight estimates are then made: Fuselage, 26 lbs.; seating, 6 lbs.; controls, 14 lbs.; instruments, 7 lbs.; wings, 96 lbs.; tail unit, 16 lbs.; undercarriage and tail skid, 15 lbs., total empty weight, 180 lbs. The area assumed in these estimates is 160 sq. ft., and, assuming a pilot weight of 160 lbs., the total loaded weight becomes 340 lbs., giving a wing loading of 2.12 lbs./sq. ft., which is slightly above the original estimate, and would probably give a slightly higher sinking speed. As the maximum K_L of airscrew 4 is 0.774, the landing speed should be in the neighbourhood of 34 ft./sec., or 23 m.p.h.

The plan form chosen for the wing is slightly tapered, with straight tips and a span of 32 ft.; the maximum chord is 5 ft. 7 ins., and the chord at the tip 4 ft. 3 ins., giving an area of 160 sq. ft. Taking moments about the nose of the fuselage, using the item weights previously estimated, the c.g. is found to lie 4 ft. 6½ ins. aft from the nose of the fuselage. The designer thinks that this position would probably result in a slight up-load having to be carried on the tail plane. [It is not possible to estimate this accurately, as in the tests described in R. and M. No. 322 the position of the c.p. was not determined.—ED.]

The following item drags are estimated at 4° incidence and a speed of 47 ft./sec.: wings, 20 lbs.; body, 6 lbs. (drag coefficient of 0.15 assumed); wheels, 0.415 lbs.; axle, 0.025 lbs.; tail unit, 1.26 lbs.; total drag, 21.7 lbs. By taking moments about the ground line, *i.e.*, a horizontal line tangent to the wheel, the vertical position of the C.G. is

found to be 3 ft. 6½ ins. above ground line. As pointed out in the Judge's criticism, no estimate has been made of the vertical position of the centre of drag in relation to the c.g.

In getting out the spar stress calculations, the designer has assumed the c.p. to be at 0.3 chord from the leading edge for the forward position, and at 0.5 chord for c.p. back position. The maximum fibre stress in the front spar for c.p. forward position is found to be 3,980 lbs./sq. in., which is satisfactory, as the strength of spruce and three-ply is assumed to be 4,000 lbs./sq. in. Still, with c.p. forward, the stresses in front spar at 6 ft. and 10 ft. out from centre line are 2,191 lbs./sq. in. and 929 lbs./sq. in. respectively. As pointed out by the Judge, the distribution of material in the spars could be improved upon.

In the case of the rear spar, with c.p. back, the maximum spar stress is found to be 3,903 lbs./sq. in., while at 6 ft. from centre line it is 1,904 lbs./sq. in. These figures are based on a load factor of 4. Estimates of spar strengths laterally indicate that the crippling loads are above the stresses met with on a load factor of 4, so that the spars may be assumed to be up to strength.

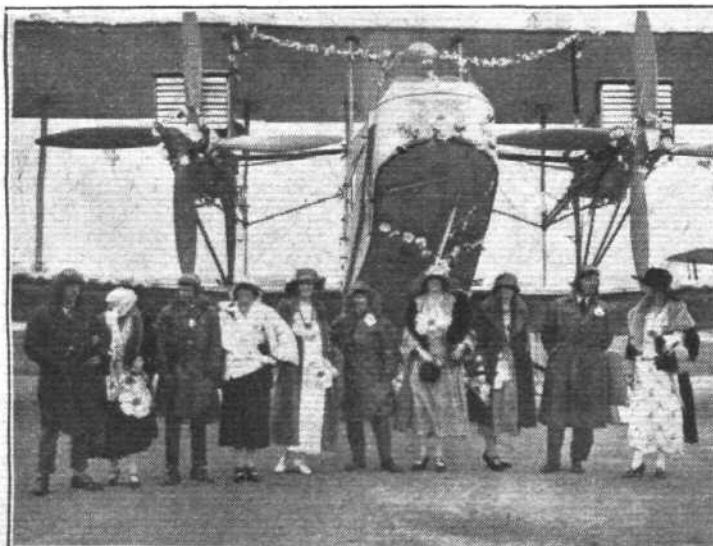
Very thorough stress calculations are also carried out for ribs, tail plane, elevator and rudder, and for the fuselage, both in bending and torsion, as well as for undercarriage and ailerons. Altogether the designer has taken very great care in his stress calculations, and so far as it is humanly possible to foresee, the structure should be up to strength if sound materials are used and good workmanship insisted upon. Nevertheless, neither we, the judges, nor the designer can accept any responsibility for possible breakages.

The aerodynamics of the "Norbet" are shown in the accompanying curve of gliding angles on base of gliding speeds in ft./sec. It will be seen that the best gliding angle occurs at 47 ft./sec. (32 m.p.h.), and is 4 degs. 20 mins., equal to 1 in 14 approximately.

Construction of "Norbet"

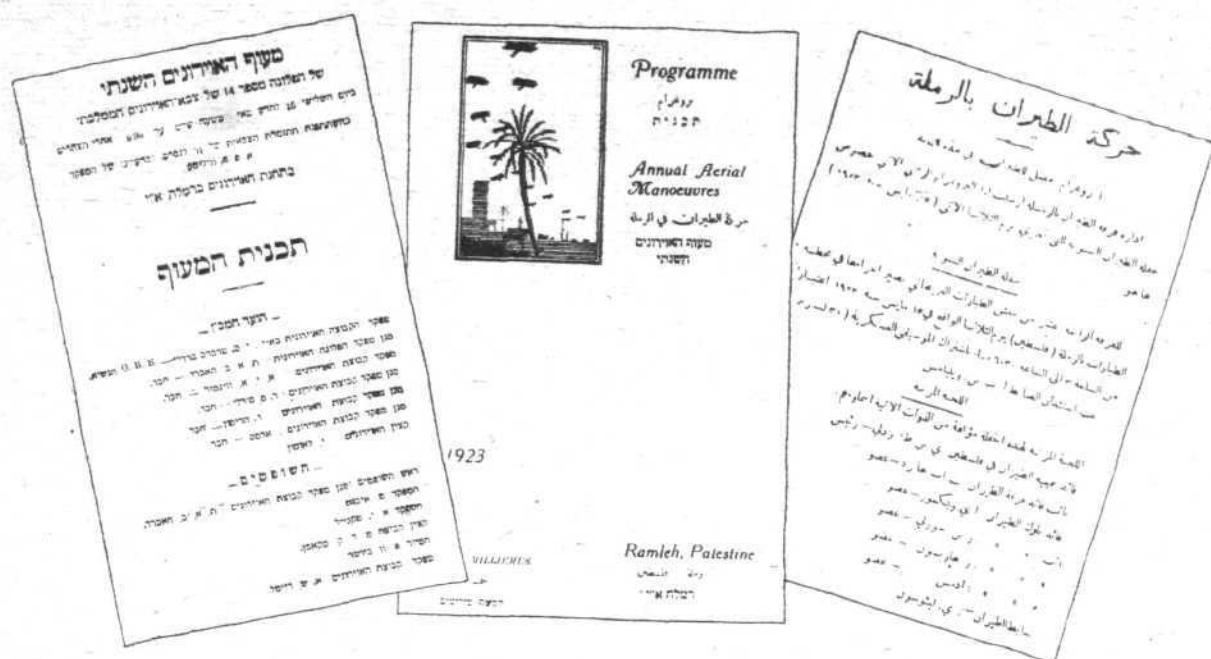
The fuselage is a rectangular section, wire-braced girder, built of spruce. The maximum load in any longeron is found to be 551 lbs. and the necessary strength provided by using main longerons of spruce ¾ ins. square. Generally speaking, the struts in the rear portion of the fuselage are ½ in. square, getting thicker as the pilot's cockpit is approached. For actual sizes see drawings. The maximum load in a wire is found to be 172 lbs., so that, assuming 80 ton wires, the area necessary will be 0.00096 sq. in., or a diameter of 0.0012 in. The nearest diameter 80-ton wire can therefore be used throughout. The designer does not provide any drawings, nor any indication whatever of the metal fittings to be used in the fuselage. A variety of types could be chosen, but personally we would rather have seen the fuselage built up without metal fittings, which are always a nuisance where amateur construction is concerned. The writer of these notes has used bracing wire without fittings of any sort, simply passing it through holes drilled in the longerons, one on each side of the strut end, and the wire bent to a flat U before being inserted. This method, however, tends to split the wood of the longeron, owing to the angle of the wire, unless a lashing is put around the wires and strut end near the longeron

(To be continued.)



ALEXANDRA DAY IN THE AIR: The operations of the rose-sellers are gradually extending. In our photographs are seen the bevy of beauties who went over to Paris on Wednesday, June 13, in the special Rolls-Royce Handley Page aeroplane.

AN AERIAL PAGEANT IN PALESTINE



We in England are now familiar with the thrills experienced at the splendid R.A.F. Pageants at Hendon, and though we live in an age of advanced mechanical and scientific development, these pageants always fill us with wonder at the progress made by man. What, then, must have been the feelings of those people of the East—in old-world Palestine—who witnessed one of these displays of mastery of the air? What, if they were looking on, did the spirits of Ancient Holyland think of the proceedings? For an Aerial Pageant, on the same scale as those held in this country, actually took place at Ramleh Aerodrome, Palestine, on May 15 last. This pageant was held in connection with the annual aerial manoeuvres of the 14th Squadron, R.A.F., and was organised by Squadron-Leader J. S. Travers Bradley, O.B.E., who was chairman of the Business Sub-Committee for the 1920 and 1921 Pageants over here.

It was estimated that some seven or eight thousand people were present, special train and "bus services being run to convey the visitors from Jerusalem, Jaffa, and surrounding districts—Ramleh being out somewhat in the "wilderness." The splendid programme of nine events was carried out promptly to time and without a hitch of any description.

Many distinguished visitors were present, including His Excellency the High Commissioner and Lady Samuel, accompanied by Mr. R. F. P. Monckton, Air Vice-Marshal Sir Edward Ellington, Officer Commanding the British Aerial Forces in the Near East; Sir Thomas and Lady Haycraft, Archdeacon and Mrs. Waddy, Judge and Mrs. Baker, Col. R. B. W. Holmes, Lieut.-Col. and Mrs. Campigli, Col. Hudson, General Grant, the Italian Consul, the French Consul-General, and the principal Arab notables.

The first event was a relay race between three teams, each consisting of an Avro, a Bristol Fighter, and a De Havilland 9A. The Avro started off first, and flew to El Kubab and back—about 8 miles—and on landing close to their respective Bristols handed over a tally disc to the waiting observer, who climbed into his Bristol, which then started off on the same course. On the return of the Bristols the same procedure took place, and the D.H. 9A's completed the course. It was a close race throughout, the winning team being as follows: Avro, Flight-Lieut. Salt; Bristol, F. O. Culley; D.H. 9A, F. O. Morris.

The next event was an exhibition of flying, and an aerial combat by Flying-Officers R. R. H. Bruce and J. Marsden. Both went through a variety of "aerobatics" in fine style, one machine after completing a half loop making a glide on its back for over a minute. After "stunting" around, the two machines closed and a fierce machine-gun duel ensued; one machine eventually being "put out of action" and compelled to land.

After this a race for Bristol Fighters (14th Squadron), for a Challenge Cup presented by His Excellency the High Commissioner, took place. The machines took off at one-minute intervals, and flew over a triangular course of about 27 miles. This also proved to be an exciting race, and after an absence of about 15 minutes the leading machine returned to the aerodrome. Flying-Officer Collingwood was originally first,

with 19 mins. 40 secs., but was subsequently disqualified. First place therefore went to Flight-Lieut. Harrison (19 mins. 47 secs.), Flying-Officer Marsden being second (20 mins. 7 secs.), and Flight-Lieut. Sorley third.

Then followed a "Landing on a Mark" contest, for a Challenge Cup presented by Major-General Sir Hugh Tudor, K.C.B., C.M.G. This event was open to Bristol Fighters and D.H. 9A's, and eliminating trials had been made previously, so only the finalists competed. The machines climbed to 2,000 ft., shut off the engine and landed as near as possible to a 15-ft. circle. Two attempts were allowed. Pilot-Officer Falconer made the best attempt, landing within 9 ft. 8½ ins. of the circle, and Squadron-Leader Winter made second best attempt.

The next event was an interesting demonstration, showing how messages are picked up when it is not convenient to land. The message was contained in a small bag attached to a coloured streamer between two poles, and the pilot, Flying-Officer Collingwood, skilfully manoeuvred his machine so that a grapnel hanging below caught the streamer and bag as he flew over. Returning, the pilot dropped the bag near the poles, when it was picked up by a waiting attendant.

Much excitement and amusement was caused by the next event, a balloon hunt, open to all types of machines, for a Challenge Cup presented by the officers of the 14th Squadron. One machine ascended at a time, and when in the air for some time a Very light was fired and three meteorological balloons were released simultaneously from different parts of the aerodrome. The object then was to "charge" and destroy all three balloons with the airscrew or any other part of the machine. This proved to be a by no means easy proposition, and the balloons eluded their attackers on many occasions. First place was obtained by Flight-Lieut. G. Martyn, who "popped" three balloons in 1 min. 1 sec. Flight-Lieuts. E. de W. Waller and J. Noakes came second and third respectively.

Flight-Lieut. J. Noakes, who created somewhat of a sensation at the first Aerial Pageant at Hendon, with his demonstration of crazy flying on the everlasting Avro, then gave a repetition of this extraordinary display of aerial antics.

The Palestine Aerial Derby was next flown for a Challenge Cup, presented by Wing-Commander T. O'B. Hubbard, M.C., A.F.C. This was a handicap open to all types of machines, and competitors started in their handicap order and flew round one lap of the same course as in the Bristol Fighter race. Thirteen machines lined-up for this event, starting off in close succession. After a long interval the first machines were seen returning home, and great was the speculation as to whether the favourite—a Vickers-Vimy, piloted by Flight-Lieut. Martyn—was the leading one. As it happened this turned out to be the case, the Vimy covering the course in about 25 minutes.

The most spectacular event of the day was reserved for the last. In this a formation of three Bristol Fighters swooped down over an "enemy" factory—a building situated in the centre of the aerodrome—which opened a machine-gun attack on the advancing machines. These in turn replied by

dropping bombs with good effect and much noise. After circling over the building, the machines flew off, and then swooped down once more and created a great sensation by "dropping" another salvo and completely demolishing the factory. The blaze which followed, to the accompaniment of the explosions of the enemy magazines, presented a magnificent effect in the late afternoon, with the victorious machines circling overhead. When everyone thought the

proceedings were at an end, a final *Bang*, accompanied by a Very rocket, added a finishing touch to the excitement.

His Excellency the High Commissioner then presented the prizes, whilst several armoured cars lined-up in front of the enclosure. Miniature souvenir cups were presented by the officers of the 14th Squadron to the winners of the challenge cups, and "God Save the King," played by the band of the 31st Lancers, terminated a most enjoyable afternoon.

LONDON TERMINAL AERODROME

Monday evening, June 18, 1923

DESPITE the cold, inclement weather passenger traffic on all lines still continues at a high level, all the three British companies obtaining good numbers of passengers on their various routes. The one exception to this is still the inland air line between London and Manchester, and this shows little sign of improvement, although it offers such good facilities for North Country business men to get quickly to the Continent. That some people recognise the value of this line was proved on Tuesday evening, when four Manchester and Liverpool men, who had been to the Birmingham races, and were anxious to return to their homes quickly, went down to the aerodrome at Castle Bromwich and prevailed on the wireless operator there to ring up the Daimler machine, which had already left Croydon, and ask the pilot to call for them at Castle Bromwich. The pilot, Mr. H. S. Robertson, received the message while over Watford, and, making direct for Birmingham, alighted there and picked up these four men, getting them to Manchester in time for them to catch the train to Liverpool and keep their appointments.

New Long-Distance Record in Wireless Telephony

THE Daimler machine which left Croydon for Berlin on Monday morning last made the journey in the record flying time of only 5 hours 20 minutes, while, at the same time, it created a new record in long-distance wireless telephony from aircraft, in that Capt. Hinchcliffe, who was pilot, was talking with Croydon when approaching Bremen, over 400 hundred miles away. When it is remembered that the aircraft sets have only a power of 100 watts, and that in the D.H.34's the pilot is sitting just behind the Napier engine, this feat is particularly remarkable. In this connection, it may be mentioned that it is quite common for the Instone machines flying to Cologne to be in touch with Croydon right up to the moment of winding in their aerals ready to descend at Cologne.

The Instone Air Line are now running a regular goods' service between Cologne and London, and are catering for the bulk transport of goods by air. Already this has proved a genuine success, many traders having been quick to take advantage of the fact that this is the only method of getting goods out of occupied territory without them having to cross the French frontier and pay an extra 10 per cent. duty to the French.

I understand that Air Ministry permission has been given for the running of the London-Cologne-Prague Air-line by the Instone firm, and that Major Greer is at present in Prague completing arrangements at that end. My information on this point is to the effect that the Czechs will pay a certain proportion of the necessary subsidy, and that the service is likely to start in two or three weeks' time.

Handley Page Transport continue to run their two machines in each direction daily between Paris and London with monotonous regularity, and their loads are also monotonous in the fact that they are usually full up, while the Air Union are also getting extremely good loads on this popular air line.

On Tuesday Major-General Sir W. S. Brancker, Director of Civil Aviation, accompanied by Brig.-General Festing, Controller of Aerodrome Licences, and Major-General Brinck, of the South African Air Force, visited the aerodrome in order to witness the departure of machines carrying Alexandra Rose Day girls to the Continent to make collections on the following day in the streets of Paris, Amsterdam, and Cologne. The machines were gaily decorated with the Alexandra roses, and all got away within five or ten minutes of one another. At one o'clock General Brancker and his party were entertained to lunch by the Trust House in the new tea-rooms and restaurant, and General Brancker officially declared this addition to the aerodrome opened. He stated that after considerable search around London they had come to the conclusion that Croydon was the best aerodrome both geographically and climatically for London, but that he did not like the present buildings, with their collection of huts and War-time erections, and he hoped the time was not far distant when the new tea-rooms, and the two big sheds, were the only survivors of the present buildings on the aerodrome. In other words, he foreshadowed a complete rebuilding of the aerodrome.

There was considerable activity over the week-end by the Surrey Flying Services with their joy-riding machines, while one of their machines, a D.H.9, piloted by Mr. A. L. Robinson, which left here for Lympne with two passengers on Saturday evening, was actually at Lympne before the telephone call announcing its departure from Croydon had been got through to a private house which the passengers intended visiting. The call was put through just as the 'plane left the aerodrome, and news of the machine's arrival had been received by wireless before the 'phone call came through.

PERSONALS

Married

Commander KENNETH MACKENZIE-GRIEVE, A.F.C., R.N., youngest son of Captain and Mrs. Mackenzie-Grieve, of Droxford, Hants, was married on June 14, at the Parish Church, Dibden, to JANET, youngest daughter of Mr. and Mrs. CLINTON BADDELEY, of Dibden, Hants. Commander Mackenzie-Grieve was navigator in the late Mr. Harry Hawker's Atlantic flight, in May, 1919.

Lieut.-Col. G. L. PIERCY HENDERSON, M.C., A.F.C. (late R.A.F.), was married on June 12 to DOROTHY KATHLEEN BAIRD.

To be Married

A marriage has been arranged and will take place next November in Cairo, between Maj. WILLIAM DICKSON LONG, O.B.E., R.A.F., younger son of the Rev. F. Long, of Chatton Vicarage, Northumberland, and BEATRICE MARY (Betty), only daughter of Mr. and Mrs. ARTHUR F. DE ROUGEMONT, of 5, Gloucester Terrace, Hyde Park.

The marriage arranged between CHARLES STEWART MACGREGOR, late R.A.F., India, now of Newcastle-upon-Tyne, younger son of the late Mr. and Mrs. John MacGregor, of Leith and North Berwick, and MARY BROÜN, only child of Mr. and Mrs. GEORGE WALLACE, 102, Kendrick Road, Reading, will take place at St. John's Church, Reading, on June 23, at 2.15 p.m.

The engagement is announced of Flight-Lieut. F. J. VINCENT, R.A.F., second son of the late Mr. and Mrs. W. Vincent, of Halberton, Devon, to GLADYS S. DERMER, 11, Cornwall Mansions, Chelsea, daughter of the late Mr. T. M. Dermer.

Death.

Mr. CHARLES LEOPOLD SAMSON, the well-known solicitor, died on June 8, and his eldest son, Captain W. L. SAMSON, D.F.C., died on June 12, the day of his father's funeral. Capt. William Leopold Samson, who was 41, was educated at Charterhouse and Magdalen, Oxford. He was called to the Bar by the Middle Temple in 1907. On the outbreak of the War he joined as a lieutenant in the R.N.V.R., and was attached and transferred to the R.N.A.S. and later to the R.A.F. At the Front he served continuously as an aeroplane observer in France, the Dardanelles, German East Africa, Italy, and Palestine, and for his services and his bravery in several bomb attacks he was awarded the Distinguished Flying Cross. Mr. Samson's second son is Air-Commodore C. R. Samson, R.N., C.M.G., D.S.O., A.F.C., who made the first seaplane experiments, the first cross-country night flights, and the first ascent from the deck of a warship while steaming. His third son, Major F. R. Samson, O.B.E., served in the R.N.A.S. and the R.A.F.; his fourth son, P. E. Samson, Liverpool Regt., was killed in action in 1918.

THE ROYAL AIR FORCE

London Gazette, June 8, 1923

General Duties Branch

Flying Officer J. Robertson is transferred to the Reserve, Class B; June 9.

Stores Branch

Flying Officer W. A. G. Goldsworthy to take rank and precedence as if his appointment as a Flying Officer bore date Dec. 23, 1919, immediately following the name of Flying Officer F. A. Osborn, M.M., reduction to take effect from May 18.

London Gazette, June 12, 1923

General Duties Branch

L. H. Weedon is granted short service commn. as Flying Off., with effect from, and with seny. of, June 1. Flying Off. H. J. Horsey is transferred to Reserve, Class A; June 12. The following resign their permanent commns.:—Flight-Lieut. G. H. Hooper, M.C., D.F.C.; June 13. Flying Off. D. F. Cox; June 3. Pilot Off. J. Buckley resigns his short service commn.; June 13. The commn. of Pilot Off. D. L. Dawson is terminated on cessation of duty; June 13.

Stores Branch

J. Sullivan is granted a permanent commn. as Flying Off. for accountant

duties; March 5, 1921, since promoted. (Gazette, March 15, 1921, appointing him to a short service commn., is cancelled.)

Reserve of Air Force Officers

Class A

R. R. H. Taylor is granted a commn. as a Pilot Off. on probation in General Duties Branch; May 1 (substituted for Gazette, May 1). Flight-Lieut. D. A. Stewart, M.C., D.F.C., A.F.C., is employed with the Regular Air Force for a period of one year; June 1.

Gazettes of dates indicated concerning the undermentioned are cancelled:—H. H. W. Bean; April 20. M. M. Kaye; April 20. C. J. Sanders; May 8.

Class C

The following are granted commns. in General Duties Branch in ranks stated:—Flight-Lieut. G. H. Hooper, M.C., D.F.C.; June 13. Flying Offr. D. F. Cox; June 3.

Memorandum

The following are granted hon. commns. in ranks stated for service under Directorate of Works and Buildings (June 1):—Wing Comdr. H. J. Nancarrow. Flight-Lieuts.: M. C. H. Smith-Carington, T.D., L. W. Hunt. Flying Offrs.: C. E. Noble, A. R. T. Smith, A. H. Richter, E. R. Green.

ROYAL AIR FORCE INTELLIGENCE

Appointments.—The following appointments in the Royal Air Force are notified:—

General Duties Branch

Wing Commander J. E. A. Baldwin, D.S.O., O.B.E., to Headquarters, Middle East, Egypt. 1.6.23, for personnel staff duties.

Squadron Leader J. Kemper, M.B.E., to Aircraft Depot, Iraq. 13.4.23.

Flight Lieutenants: R. J. Slade, D.S.C., to No. 4, Armoured Car Company, Iraq. 24.4.23. J. W. Hosking, M.B.E., and L. H. Browning, M.C., D.F.C., both to Headquarters, Middle East, Egypt. 10.5.23.

Flying Officers: F. W. W. Wilson, A. E. Evans, D.F.C., A. Leslie-Moore, R. F. Overbury, F. E. Vernon, and H. S. Davidson, all to R.A.F. Base, Gosport. 4.6.23, for course of instruction. G. Lansdowne, D.F.C., to R.A.F. Base, Leuchars. 21.5.23, on transfer to Home Establishment for duty with No. 443 Flight on formation. H. C. Pyper, to R.A.F. Staff College, Andover. 12.6.23, for administrative duties. O. D. Freeman, to School of Army Co-operation, Old Sarum. 1.6.23. L. H. Weedon, to R.A.F. Depot. 1.6.23, on appointment to a Short Service Commission. J. F. Horsey, to No. 30 Squadron, Iraq. 17.5.23. C. C. Clark, to Basrah Group Headquarters, Iraq. 14.5.23. W. E. James, to No. 267 Squadron, Malta. 18.5.23. R. Tuck, to No. 2 Armoured Car Company, Palestine. 1.6.23. P. W. Lingwood, to No. 216 Squadron, Egypt. 18.3.23. J. E. V. Lindsey, to No. 55 Squadron,

Iraq. 11.5.23. J. L. Hayward, to No. 28 Squadron, India. 10.5.23. E. C. N. Jeffries, to No. 28 Squadron, India. 10.5.23.

Pilot Officers: A. E. B. Bateman and M. Wiblin, both to R.A.F. Base, Leuchars (No. 403 Flight). 1.6.23. C. J. Stone, to No. 2 Squadron, South Farnborough. 11.6.23.

Stores and Accountants' Branch

Squadron Leader (Stores) L. Auker, O.B.E., to No. 4 Stores Depot, Ruislip. 19.6.23.

Flying Officers (Stores): D. Barron, to C. and M. Party, Hawkinge. 8.5.23. J. R. Gardiner, to Inland Area, Aircraft Depot, Henlow. 11.6.23.

Medical Branch

Squadron Leaders: A. J. Brown, D.S.O., to Central R.A.F. Hospital, Finchley. 23.6.23. A. S. Glynn, M.B., to Headquarters, Iraq Command. 1.6.23.

Flight Lieutenants: W. G. L. Wambeck, to No. 1 School of Technical Training (Boys), Halton. 20.6.23. E. G. S. Hall, M.B., to R.A.F. Depot. 4.6.23. J. A. Quin, M.D., B.A., to Research Laboratory and Medical Officers' School of Instruction, Hampstead. 31.5.23, on appointment to a Short Service Commission, for course of instruction.

Chaplains' Branch

Rev. M. J. Eland, to Basrah Group Headquarters, Iraq. 13.12.22.

IN PARLIAMENT

Aerial Photographs of Traffic

VISCOUNT CURZON on June 12 asked the Parliamentary Secretary to the Ministry of Transport whether any steps have so far been taken or, if not, whether they can be taken, in conjunction with the Air Ministry, to compile an aerial photographic record of the traffic conditions on the main arteries of traffic and at the various local points in the Metropolitan police area during the various hours of the day?

Colonel Ashley: The answer is in the negative. I may add that records of traffic conditions on the main arteries of traffic have been secured by my Department by means of the census taken on all Class I roads in August last, the results of which will shortly be published. It is hoped to repeat this census at regular intervals. In addition, the Metropolitan police authorities collect similar statistics in their area at annual intervals. I am of opinion that this method gives more precise results, at less expense, than would be obtained by the means suggested in my noble friend's question.

Viscount Curzon: Is the hon. and gallant gentleman aware that in the ordinary course of their training the Air Force have secured photographs of traffic which might be of the greatest possible use to the Department?

Colonel Ashley: I will certainly confer with my right hon. friend, but as at present advised I think the census is the best way of getting at the real conditions.

Calthrop's Parachute Company

SIR H. BRITAIN on June 14 asked the Secretary of State for Air whether he is aware that Messrs. E. R. Calthrop's Parachute Company will be forced into liquidation if they do not receive compensation for the work they have

done for the Air Service; that this company have not been paid for the experimental work they did under the orders of the Air Ministry, and the sum of £5,504 for new parachutes supplied by them and used for experimental and demonstration purposes under the orders of the Admiralty Air Department and of the Secretary of the Parachute Committee; and whether, seeing that these parachutes are of great use in military fighting machines, he will expedite the payment of compensation to this firm?

The Secretary of State for Air (Lieut.-Col. Sir Samuel Hoare): Messrs. Calthrop's case has already been brought to my notice. Whilst I should greatly regret the liquidation of the company, I cannot admit that the Air Ministry would be in any way responsible for its failure. All parachutes ordered from the firm by the Government have been paid for, to the value of over £100,000. A large amount of experimental and demonstration work was also carried out by Messrs. Calthrop as described in my hon. friend's question, but it was carried out upon their own initiative and for the purpose of establishing their parachute as a business proposition. As, however, in a few cases out of those which formed the subject of the claim, the work was to some extent encouraged by officials of the Air Ministry, an offer was made to the company to recommend to the Treasury an *ex-gratia* payment of £1,000 to cover their expenses in connection with these particular items. This offer, which is regarded by the Department as a fair one, has been declined by Messrs. Calthrop, and I cannot see my way to increase it.

Capt. Wedgwood Benn: Is the right hon. gentleman satisfied that there is a sufficient supply of parachutes which are necessary for the safety of air work?

Sir S. Hoare: I would like notice of that question.

'An Aerial Taxi Ride'

UNDER above title an article appears in the *U.S. Air Service Magazine* for June, over the signature C. T. Ludington, dealing with a flight made by the writer in one of the de Havilland taxi-planes from Stag Lane to Wales in 1921. After describing the conditions, under which time was getting short and a visit to Wales threatened to be impossible, the writer continues: "A visit to the airdrome of the de Havilland Aircraft Company at Stag Lane was one of the plans I had for my stay in London, and when I discovered that the only time I could work this in was during the early forenoon of the Tuesday I was expected in Wales, I found myself in a serious quandary. . . . I was beginning to think that I should have to give up my visit to the airdrome when I remembered that the de Havilland Company maintained an aerial taxi service to all parts of England or elsewhere. A short talk on the telephone solved the problem and proved that the rates, which I had imagined would be nearly prohibitive, would still leave cash in my pocket on my arrival.

"Although I had no claim on the kindness of the men at the de Havilland experimental plant, they took me at my word, and one of the bright spots of my trip will always be the cordial reception and the hospitality I enjoyed during my visit there." The writer then goes on to relate the preliminaries to the start, and gives an account of the trip itself, expressing his confidence in the Siddeley "Puma" with which the D.H.9 used was equipped, in the following terms: ". . . the Siddeley purred steadily, and as in a stormy flight across Holland and Germany a week before I had learned to trust these power plants, I felt reasonably free from anxiety. A flight as close to the country below as this is ideal from the point of view of the aerial tourist."

The article then describes in detail the last portion of the trip, the excellent landing in a small field, and the hospitality of the owner of the field, and concludes: "I rode into Rhayader on the same train I would have been on had I made the whole weary journey by rail, and I had saved more than five hours."

SOCIETY OF MODEL AERONAUTICAL ENGINEERS (London Aero Models Association)

Visit of the S.M.A.E. to Holland

THE unseasonable weather which prevails everywhere this year does not encourage the pursuit of model aviation, but the representative of the S.M.A.E., Mr. C. Bayard Turner, who has returned from a visit to Holland, found that the enthusiasm of the Dutchmen could not be damped by rain or wind.

There are, he reports, in Holland, five Model Aeronautical Societies: the U.P.C. of Utrecht, the H.P.C. of the Hague, the H.A.C. of Haarlem, the A.P.C. of Amsterdam, and the R.M.A.C. of Rotterdam. These are all affiliated to form the P.A.S.C. (Proef Aeroplane Sport Commissie), which is the ruling Model Aeronautical Society in Holland, and a branch of the Dutch Royal Aero Club.

The total membership of the P.A.S.C. is at present about eighty, and of these, nearly two dozen arrived at Waalhaven Aerodrome on Sunday morning last, in spite of the fact that it was raining hard and blowing harder. Most of them brought machines, hoping to compete for the Dutch half-yearly championship, but after a few trial flights in dry intervals it was decided to postpone the competition until the evening, in anticipation of the wind dropping.

The British rubber-driven fuselage model, which was fortunately a very fast machine and able to fight the wind, then went up and made some very good flights, but seemed unable to climb. It appears that this is characteristic of model-flying in Holland, and models made in Holland and brought over here have given as much as 20 per cent. better performance in this country.

The day passed in raising the revenue of the Waalhaven Hotel.

Towards evening the Dutchmen, determined not to let an Englishman have it all his own way, again took their machines out, and showed that in fine weather they were capable of long flights, but the wind on Sunday was too much for them, and five were unfortunately crashed. The competition was again postponed.

The British compressed-air-driven model, having very light loading, and but a small reserve of power, did not go up, but very great admiration was expressed for the finish of the J.L. engine with which it was fitted.

On the whole, the visit was a great success, in spite of the weather, and the thanks of the S.M.A.E. are due to the P.A.S.C. for their generosity in arranging the trip and for their hospitality; to K.L.M. for their kindness in providing the best of all systems of transport; and finally to Mr. Jones himself for very kindly lending one of his own models.

A. E. JONES, Hon. Sec.

[It is gratifying and encouraging to see the rapid progress being made by the S.M.A.E., as indicated by the above event, since its inauguration, and it is to be hoped that further similar visits to other countries may be forthcoming.—ED.]

PADDINGTON AND DISTRICTS AERO CLUB (Affiliated to the Society of Model Aeronautical Engineers)

THE Paddington Challenge Cup will be flown for at Sudbury Flying Ground on Saturday, September 8, at 3.30 p.m., under the rules of the S.M.A.E. and the following special rules:—

(1) The competition to be open, with an entrance fee of 2s. for non-members. Subscriptions of members entering must be paid up to date of competition.

(2) All machines entered must be rubber-driven, and one of the following types: Spar Tractor, Fuselage Tractor and Farman Type.

(3) All machines must rise off ground.

(4) The number of seconds flown in the best flight of three will be the number of marks gained, with the addition of 30 marks for fuselage tractors and 35 marks for Farman type machines. Spar tractors score number of seconds only.

(5) Minimum qualifying flights to be 20 secs. for fuselage tractors and Farman type machines, and 35 secs. for spar tractors.

The winner will receive silver-gilt medal, and hold cup for one year. Second, silver medal. Third, bronze medal.

Practice flying took place at Sudbury on May 26. Members and friends present put up a good show of gliding and flying. Mr. C. J. Burchell's efforts quite put everyone else in the shade. His best times were 33 and 36 secs. gliding and 68 secs. with a spar tractor machine. The latter was very consistent, doing 50 to 60 secs. at every attempt.

All enquiries, entry forms, etc., from

M. LEVY, Hon. Sec.,
175, Sutherland Avenue, W.9.

IMPORTS AND EXPORTS, 1922-1923

AEROPLANES, airships, balloons and parts thereof (not shown separately before 1910). For 1910 and 1911 figures see "FLIGHT" for January, 25, 1912; for 1912 and 1913, see "FLIGHT" for January 17, 1914; for 1914, see "FLIGHT" for January 15, 1915; for 1915, see "FLIGHT" for January 13, 1916; for 1916, see "FLIGHT" for January 11, 1917; for 1917, see "FLIGHT" for January 24, 1918; for 1918, see "FLIGHT" for January 16, 1919; for 1919, see "FLIGHT" for January 22, 1920; for 1920, see "FLIGHT" for January 13, 1921; for 1921, see "FLIGHT" for January 19, 1922; and for 1922 see "FLIGHT" for January 18, 1923.

	Imports		Exports		Re-Exports	
	1922.	1923	1922.	1923.	1922	1923
Jan. ..	1,152	466	76,552	60,079	23	280
Feb. ..	567	641	69,129	120,236	1,100	3,040
Mar. ..	1,471	589	166,607	71,945	100	689
April ..	3,846	8,508	139,995	167,757	5,880	462
May ..	2,416	845	167,999	55,427	4,254	728
	9,452	11,049	620,282	475,444	11,357	5,199

PUBLICATIONS RECEIVED

Report No. 158.—Mathematical Equations for Heat Conduction in the Fins of Air-Cooled Engines. By D. R. Harper and W. B. Brown.

Report No. 162.—Complete Study of the Longitudinal Oscillation of a Ve-7 Airplane. By F. H. Norton and W. G. Brown.

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AERONAUTICAL PATENT SPECIFICATIONS

Abbreviations: cyl. = cylinder; I.C. = internal combustion; m. = motor. The numbers in brackets are those under which the Specifications will be printed and abridged, etc.

APPLIED FOR IN 1921

Published June 21, 1923.

34,554. L. COPPI. Rotary I.C. engines. (197,985.)

APPLIED FOR IN 1922

Published June 21, 1923.

- 4,922. P. B. VAN LEGGLO. Means for propelling aeroplanes, etc. (198,031.)
5,349. S. X. PANTOS. Frames for toy aeroplane wings, kites, etc. (198,051.)
6,100. H. COCH. Navigational apparatus for aircraft, etc. (198,090.)
11,317. FORD INSTRUMENT COMPANY, INC. Gyroscopic compasses. (179,918.)
20,073. SOC. ANON. DES AEROPLANES G. VOISIN. Brakes. (186,584.)
26,471. A. RATEAU. Fuel supply to aircraft engines. (189,096.)

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